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## HIGHLIGHTS/WINTER 1977

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THE OUTLOOK FOR CLOTHING
FOOD
HOUSING
ENERGY

ENERGY AND FARM-OPERATOR HOUSEHOLDS TRANSPORTATION AND FARM-OPERATOR HOUSEHOLDS



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FAMILY ECONOMICS REVIEW is a quarterly report on research of the Consumer and Food Economics Institute and on information from other sources relating to economic aspects of family living. It is prepared primarily for home economics agents and home economics specialists of the Cooperative Extension Service.

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## CLOTHING AND TEXTILES: SUPPLIES, PRICES, AND OUTLOOK FOR 1977 1

by Annette Polyzou

Clothing expenditures and prices. Consumer expenditures for clothing and shoes averaged \$345 per person during the first three quarters of 1976, according to preliminary figures (table 1). These expenditures represented a 5.2-percent increase in per capita expenditures over 1975. Approximately half this increase was caused by a rise in the level of prices, and about half resulted from increased buying—a real increase of 2.8 percent in dollars of constant value.

The price level for apparel and upkeep, as measured by the Consumer Price Index (CPI), averaged 3.5 percent higher during the first three quarters of 1976 than during the same period in 1975 (table 2). Increases among the three apparel subgroups averaged 3.3 percent for men's and boys' clothing, 2.6 percent for women's and girls' clothing, and 3.5 percent for footwear. Such increases for apparel items were less than the 6.0-percent increase for all items of the CPI.

The economy enjoyed a substantial growth during the first quarter of 1976. Real gross national product (GNP), the total output of goods and services adjusted for inflation, grew 9.2 percent on an annual basis during this period. This growth was largely due to a sharp increase in consumer expenditures. Consumers' "real" purchasing power increased substantially during this period due to strong gains in personal income and a relatively small increase in the price level. According to trade sources, retail sales increased greatly during the first

quarter, with emphasis on durable goods and spring apparel. Retailers responded to this large increase in sales by rapidly building up inventories.

Economic growth slowed considerably during the second quarter. Real GNP expanded 4.5 percent on an annual basis during this period, less than half the 9.2-percent growth of the first quarter. The CPI rose at an annual rate of 6.4 percent, which is more than double the 2.9-percent annual rate of the first quarter. Various trade reports cited the following reasons for the sluggishness of retail sales during the second quarter:

- An increase in the price level.
- Lower income tax refunds in 1976 than in 1975.
- A slowdown in the rate of purchasing by consumers to compensate for their fast-paced buying during the first quarter.
- Unseasonably cool weather in many parts of the country, which discouraged purchases of such hot-weather merchandise as summer apparel.

The second quarter revealed a shift by consumers from strong buying of apparel to durable goods, according to trade sources. The big losers during this period included many lines of men's and women's nonsportswear apparel and children's wear. Retailers scheduled early clearance sales and took deep markdowns on regular stock to work down the large inventories accumulated during the first quarter.

Preliminary third-quarter figures indicated that real GNP expanded at 4.0 percent on an annual basis. Retail sales remained a bit sluggish during most of the third quarter although there was a fairly high volume of consumer purchases of fall apparel, especially sweaters, three-piece tailored suits, and coordinated sportswear for men and women. Trade reports indicated that retailers still felt the reluctance of consumers to purchase apparel and other nondurables during this period. They attributed this reluctance to lack of strong fashion

¹ Information in this paper is based on reports available during the period January through October 1976. Discussion of business trends is based on trade reports or news items in the Daily News Record, the Wall Street Journal, Business Week, the New York Times, and the Washington Post. Other sources include the following: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business 56(1), Part II, and 56(8), 1976. U.S. Department of Labor, Bureau of Labor Statistics, News (Consumer Price Index monthly reports). U.S. Department of Agriculture, Economic Research Service, Cotton and Wool Situation, CWS-4 and CWS-7 (1976). Textile Organon XLVII(9), September 1976.

Table 1. Annual expenditures on clothing and shoes 1

	Per capita				expenditures		Aggregate expenditures	
Years <sup>2</sup>	expenditures		expenditures for personal consumption		Billions of	Billions of		
	Constant dollars (1972)	Current dollars	Constant dollars (1972)	Current dollars	constant dollars (1972)	current dollars		
1947-63	203	142	8.6	9.1	33.6	23.5		
1964-65	225	169	8.0	7.9	43.4	32.7		
1966-71	242	214	7.6	7.7	48.8	43.1		
1972	264	264	7.5	7.5	55.1	55.1		
1973	281	291	7.7	7.6	59.2	61.3		
1974	278	307	7.8	7.3	58.9	65.1		
1975	287	328	8.0	7.2	61.3	70.0		
1976 <sup>3</sup>	295	345	7.8	7.0	63.3	74.2		

<sup>&</sup>lt;sup>1</sup>Revised estimates for all years resulted from changes in definitions of personal consumption expenditures (other than clothing and shoes) and from statistical revision of previous estimates. More detailed information can be obtained from the U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, 56(1), Part I, 1976.

Source: Department of Commerce, revised estimates. "Clothing and shoes" include nondurable goods only.

Table 2. Annual percentage change in selected indexes of consumer prices

Consumer Price Index	1972	1973	1974	1975	1976 <sup>1</sup>
All items Apparel and upkeep 2  Men's and boys' clothing  Women's and girls' clothing  Footwear	+3.3	+6.2	+11.0	+9.1	+6.0
	+2.1	+3.7	+7.4	+4.5	+3.5
	+1.3	+3.7	+7.9	+4.3	+3.3
	+2.4	+3.5	+6.0	+2.4	+2.6
	+2.8	+4.2	+6.1	+4.4	+3.5

<sup>&</sup>lt;sup>1</sup>Preliminary estimates--average for first 3 quarters of 1976 compared with average for first 3 quarters of 1975.

Source: Bureau of Labor Statistics.

<sup>&</sup>lt;sup>2</sup>Earlier years are grouped on basis of similarity in level of per capita expenditures in 1972 dollars.

<sup>&</sup>lt;sup>3</sup>Preliminary figures--average of estimates for first 3 quarters of 1976 (i.e., seasonally adjusted quarterly totals at annual rates).

<sup>&</sup>lt;sup>2</sup>Also includes infant's wear, sewing materials, jewelry, and apparel upkeep services, for which indexes are not available.

leadership and to increased prices of fall apparel. Retailers continued to decrease their inventories through markdowns and drastic reductions in future buying.

The seasonally adjusted wholesale price index for textile products and apparel rose 1.4 percent during the period of June through October. Monthly rates for the period were 0.1, 0.7, 0.3, -0.1, and 0.4 percent, respectively. These rates indicate the probability of price increases for apparel at the retail level during the months ahead and make less likely any large rise in average spending on clothing in dollars of constant value. Consumers are likely to be quite selective in their purchases of apparel as they seek attractive price-value relationships.

Supplies of raw materials. Production of textile mill products fluctuated only slightly from month to month during the first 7 months of 1976. Average production was about 36 percent higher than at its depressed level during the same period in 1975.

U.S. mill use of fibers in 1976 (based on data for the first 9 months) is estimated at about 54 pounds per capita, including 15.8 pounds of cotton, 0.6 pound of wool, and 37.7 pounds of manmade fibers. This compares with 1975 per capita use of 49.6 pounds, including 14.2 pounds of cotton, 0.5 pound of wool, and 34.9 pounds of manmade fibers. An apparent trend toward natural fibers and a natural look in clothing during 1976 has caused increased demand for cotton and wool.

During the period of 1965 to 1973, mill use of all fibers on a per capita basis generally increased from 43.9 to 59.3 pounds but was lower in 1974 and 1975 than in 1973 (52.4 and 49.6 pounds per capita, respectively). Mill use of cotton on a per capita basis, however, decreased from 23.3 pounds in 1965 to an estimated 15.8 pounds in 1976; mill use of wool decreased from 2.0 pounds to 0.6 pound. Mill use of manmade fibers (which comprise the remaining fiber use) followed the trend of total fiber use.

The 1976 cotton crop is expected to be nearly a fourth larger than last year's crop despite recent deterioration in production prospects. Tight supplies and reduced stocks are expected, however, to prevail during the 1976-77 cotton season due mainly to larger

exports (at least a fourth more than for last season).

Cotton prices rose sharply during the 1975-76 season due to increased demand for all-cotton denim and corduroy, as well as greater use of cotton in blends with manmade fiber. Most qualities of cotton are currently priced about 25 to 30 cents per pound higher than a year ago. Prices for mill-delivered cotton are presently about 50 percent higher than for manmade fiber staple.

Average U.S. mill use of cotton for the first 9 months of 1976 was approximately 20 percent higher than the average mill use of cotton during the same period in 1975. Current high prices of cotton in relation to other fibers and tight cotton supplies may encourage greater substitution of manmade fiber for cotton; thus, U.S. mill use of cotton may be moderately smaller during the 1976-77 season.

U.S. wool production in 1976 is estimated at 10 percent below 1975 and 18 percent below 1974. The decrease in wool production during the past several years has been attributed to a decrease in the number of sheep and lambs, as well as to a decrease in the average fleece weight. Strong wool prices resulted in a 15-percent reduction in commercial slaughter of sheep and lambs during the first half of 1976, compared with the same period in 1975. If this reduction in slaughter levels continues through 1977, U.S. wool production may stabilize or possible increase.

U.S. farm prices of wool have moved upward since mid-1975 due to greater demand and smaller domestic supplies. Prices are expected to increase moderately during the next few months.

U.S. mill use of raw apparel wool for the first 8 months of 1976 was 25 percent higher than during the same period in 1975. Domestic demand (mill use plus import-balance) between January and August of 1976 was approximately 51 percent higher than during the same period a year earlier. Such a strong increase in demand reflects the fashion trend towards the natural look and the renewed interest in wool as a natural fiber for use in sweaters and men's vested suits. The outlook for wool during the 1976-77 period includes strong demand, resulting in relatively high mill use and imports of wool textiles. Consumers are likely to see more wool and wool blends in the market.

Shipments of manmade fibers by U.S. producers during the first 8 months of 1976 were approximately 16 percent higher than in the same period in 1975, according to the September 1976 issue of TEXTILE ORGANON.

According to trade reports, demand for polyester filament was very weak during 1976 because of the shift in apparel styles from knit fabrics towards the natural look of woven or spun fabrics. Polyester filament producers made sharp production cutbacks during most of 1976 while numerous double-knit textile plants closed as a result of the slack in the polyester filament market. Filament prices dropped steadily during 1976. DuPont, the largest producer of polyester filament, steadily cut the price of polyester feeder yarn from a high of 87 cents per pound during the early part of the year to 50 cents per pound in October. Trade sources expect that further price decreases may be averted during the latter part of 1976 as a result of sharp production cutbacks.

As of October 27, 1976, trade reports indicate the following trends. The price of poly-

ester staple is expected to increase as a result of increased demand for the fiber by domestic mills. Mills are expected to switch production from 50/50 to 65/35 polyester-cotton blends for bedsheets and printcloth because of high price and scarce supplies of cotton. There may also be a shifting from all-cotton to low-blend polyester-cotton for a substantial portion of the denim market, primarily for improved performance. By increasing the price of polyester staple, polyester producers hope to recover the losses incurred by polyester filament.

A price increase for rayon also is anticipated because of increased demand for rayon by mills seeking to replace relatively expensive cotton with cheaper rayon staple. Prices for acrylic staple, which increased in recent months, may continue to do so for the remainder of 1976. Acrylic simulates the natural-fiber look of wool and is benefiting from the strong market for sweaters. According to fiber producers, the above price increases of polyester staple, rayon, and acrylic are necessary in view of increasing costs of raw materials and production.

#### RETIREMENT OF VIRGINIA BRITTON

Virginia Britton, known to most FAMILY ECONOMICS REVIEW readers for her work on clothing budgets and the annual outlook for clothing and textiles, retired on October 12, 1976, after 17 years of service with USDA. Dr. Britton worked with every major nationwide expenditures survey, beginning with the

Consumer Purchases Study of 1935-36. She taught at Pennsylvania State University, University of Akron, Kent State University, and the University of Maryland. She authored many papers and research reports and a college textbook on personal finance.

## THE OUTLOOK FOR FOOD SUPPLIES AND PRICES 1

by James R. Donald<sup>2</sup>

The current food situation is highlighted by: Large supplies due to fairly good crop harvests

<sup>1</sup> This article is condensed from a paper given at the National Agricultural Outlook Conference in November 1976, at Washington, D.C. The complete paper may be ordered from the Consumer and Food Economics Institute (see inside cover page of this issue of Family Economics Review for address).

<sup>2</sup> Deputy Outlook and Situation Officer, Economic Research Service, U.S. Department of Agriculture.

and heavy output of livestock and poultry products; relatively strong demand both here and abroad; and marketing costs that are rising in line with general inflation in the U.S. economy. All this adds up to the relative stability we saw in retail food prices in 1976. The 1977 outlook is for continued generous food supplies. Prices will be fairly stable at the start of the year but will increase in the spring if beef supplies tighten as expected.

#### **Prices and Consumption During 1976**

The combination of the farm price of food and marketing costs determines the price of food to consumers. There are several ways to measure food prices or costs. USDA computes the retail cost, as well as the farm value and farm-retail price spread, for a market basket for farm foods, based on data from the Bureau of Labor Statistics (BLS). BLS includes a measure of retail food prices in its Consumer Price Index. Food accounts for about one-fourth of this index. The food index, itself, includes two components: Food consumed at home or purchased in grocery stores accounts for most of the total, with food consumed away from home accounting for about one-fifth. The food-at-home component is weighted slightly more toward livestock products than crop foods.

With food supplies outpacing demand, farm food commodity prices have been easing since the summer of 1975 due to a decline in farm value, a measure of returns to farmers for food products. The farm value of the market basket of farm food commodities averaged nearly 4 percent below 1975. Livestock-related foods—particularly meat animals—showed the greatest decline. Crop-related foods generally were under less downward price pressure.

Although the farm value of the food market basket has declined in 1976, the retail cost of the basket of farm foods averaged slightly higher. A rise of about 5 percent in the farm-retail spread accounted for the small rise in the retail cost of domestically produced foods. While the spread widened in 1976 because of higher marketing costs, largely reflecting wage settlements and higher packaging and transportation costs, the increase is only about half the 1975 advance. Among major foods, price spreads increased the most for those commodities showing the sharpest price declines at the farm, including beef, pork, and bread.

If consumers purchased only domestically produced farm foods from grocery stores, they would have paid about 1¼ percent more for food in 1976 than a year ago. However, consumers also buy imported foods, such as coffee and fishery products. Taking these purchases into account, we push up average retail food prices by slightly more than 1 percentage point—to an average increase of nearly 2½ percent for all food consumed at home.

Finally, consumers do not purchase their total food needs in grocery stores. That is, they eat away from home in places like restaurants and pay for the services of someone else to prepare and serve meals. Taking this into account tacks nearly another percentage point onto the food price increase for 1976.

All told, taking into account farm-produced foods, imported foods, fishery products, and meals eaten away from home, the prices consumers pay for food averaged around 3 percent more in 1976 than in 1975. Still, this was sharply below 1975's 8½ percent increase and was the lowest annual rate of increase since 1971.

With record-large food supplies and higher consumer incomes, U.S. per capita food consumption for all of 1976 was up a little over 2 percent from 1975 and was nearly equal the record high of 1972. Consumption of crop foods, where 1976 supplies were supplemented by large carryovers from 1975 crops, was up slightly over 1 percent, while animal product use was about 3 percent higher. The combination of 2 percent larger consumption and 3 percent higher prices meant a rise of about 7 percent in consumer expenditures for food. Food spending, however, did not match the rise in disposable personal income; so the percentage of income spent for food averaged slightly less than the 17.1 percent in 1975.

#### Food Outlook for 1977

Large food supplies will continue to slow the rise in food prices during the first half of 1977. At the same time, demand expansion and rising marketing costs will put upward pressure on food prices. On balance, a retail food price increase of about 3 percent is in prospect for the first half of 1977. However, the seasonal pattern of food price movements may shift as 1977 unfolds, mostly due to a reduction in beef supplies by next spring.

During the first quarter of 1977, a price increase of 2 or 3 percent is expected over a year earlier, mainly reflecting increasing prices for coffee, some produce items, and higher marketing costs and restaurant meals. By next spring, food price increases may be a little sharper if the economy is strong and beef output declines as expected. Prospective higher farm prices, coupled with marketing costs 5 to 6 percent above the spring of 1976, may lead

to food price increases averaging 3 or 4 percent above last spring.

Crop supplies and livestock product output during the first half of 1977 generally depend on plans and actions already taken by producers. The second half of this year is less certain. On the crop side, farm prices this winter and next spring, along with growing and harvesting conditions, will greatly influence crop supplies during the summer and fall of 1977. Relatively favorable crop prices are indicated if demand continues as strong as expected, and these prices should lead to large 1977 plantings, particularly for soybeans.

Prospective 1977 crop developments also will influence production plans for livestock and poultry. Output of animal products should remain large in the second half of 1977, especially if supplies and prices of feed are favorable to livestock and poultry producers.

Cattle are a key to the outlook. If fed cattle prices improve this winter and next spring as expected, cattlemen will likely increase placements on food and reduce the number of animals going to slaughter directly off grass during the first half. This points to a little larger beef production in the second half. Coupled with continued relatively large pork, poultry, and milk output, animal product supplies will continue at a high level, although below the level of the second half of 1976.

On balance, 1977 looks like a year of fairly generous food supplies for consumers, with another year of only moderately rising retail food prices.

#### The Long-Term Outlook

Since 1973 most of the increase in retail food prices can be attributed to increased marketing costs, including transportation, packaging, and labor costs.

As we move into the future, both the level of food prices and year-to-year changes will depend heavily on factors related to general price inflation, food production both here and abroad, productivity throughout the sectors of the food system, food demand, and government policy.

The impact of these factors on retail food prices will be reflected through marketing costs and farm prices. Marketing costs have become increasingly tied to *inflation*, or the overall cost of living, and this is likely to remain true in the

future. If upward cost pressures continue as expected in the economy, marketing costs will rise. For example, about one-half of total food marketing costs are accounted for by labor, and, currently, wage contracts of at least one-sixth of food industry employees include cost-of-living adjustment clauses that are tied to the CPI for all items (1).<sup>3</sup> Also, wages of nonunion and management employees usually follow changes in collective bargaining agreements. Transportation and packaging costs, the next two largest components of food marketing charges, will be responsive to rising energy requirements and generally higher operating costs.

On the production side, the world has the potential to produce adequate food supplies. Questions center around the level of farm prices needed by producers to cover the cost of producing food and the impact of weather, disease, and pests on the food supply. In the United States, farmers have the capability to produce sufficient food for current domestic and export needs, but uncertainty centers around production costs and product prices needed by U.S. producers to expand production to meet growing food markets.

Developments in the 1970's suggest the possibility of a continued high level of exports and considerable year-to-year variability because of changing conditions abroad.

The total quantity of food that U.S. farms will supply, and at what prices, is related to production costs and the *productivity* of resources used by farmers. Upward cost pressures are likely to continue in the farm sector, especially for inputs related to energy, labor, and environmental quality. Among other inputs, a key question centers around the cost of feed. For example, feed cost rises would increase the cost of finished cattle and could result in the cattle industry's becoming more dependent on roughages, and thus tend to reduce productivity gains in feeding (2).

For both crops and livestock, there is further potential for substituting capital for other inputs, such as labor, and continuing output gains from adoption of available technology (3). However, total farm productivity has slowed in recent years. Annual gains of 1 to 1½

<sup>&</sup>lt;sup>3</sup> Numbers in parenthesis refer to References at the end of this article.

percent to 1985 are projected by the Economic Research Service, and realization of these gains assumes that yields will be subject to "the average weather conditions that prevailed during 1950-72" (4).

The projected rate of productivity gain probably will not fully offset the impact on production of rising costs since these costs may rise more in line with prices for chemicals, fertilizers, and energy. Even if productivity gains hold per unit food production costs and farm prices constant, expanding demand will likely exert upward pressure on farm prices in some years.

The worldwide demand for food products likely will continue to expand with rising world population and increasing per capita incomes. It is generally agreed that the United States can remain a competitive-producer of food commodities in relation to other countries. This implies that the United States can maintain a significant share of world food trade, with a continued strong export demand for U.S. food products. However, world trade expansion could slow as countries abroad strive for greater self-sufficiency in food production. In this case, the rate of U.S. export growth may not match that of recent years.

U.S. per capita food consumption may continue to be relatively stable or may increase slightly, the use of processed foods and fresh meats continuing to show the fastest gain. This suggests little, if any, change in the farm value as a percentage of retail cost because of these shifts since farmers' small share of processed foods likely will be offset by their large share for meat.

Retail food prices—and especially year-toyear variations in prices—also could be affected by government policy. Governments can influence both farm and retail food prices through farm programs or retail price stabilization programs. Governments generally use indirect methods to moderate the impact of changes in food supplies and demand on farm retail food prices, such as the recent U.S. grain trade arrangements with several countries.4 Reserve food stocks represent another indirect method, either through stocks owned and held by the government or through privately owned and held stocks with assistance from the government. Actions may be related to international trade, including export embargoes, taxes and subsidies, adjusting tariffs and quotas on imports, trade arrangements, and commodity agreements.

In looking ahead, most indications point to a desire of countries to assure their producers reasonable incomes and to assure their consumers adequate food supplies, whether through domestic production or trade. In either case, these indications point to closer economic ties among countries and perhaps relaxation of trade barriers, particularly to meet production deficits.

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<sup>&</sup>lt;sup>4</sup> The United States has grain arrangements or agreements with 5 importing countries, including the Soviet Union, Taiwan, Japan, Poland, and Israel. These arrangements generally cover 3 to 5 years, beginning in 1976, and were made to help assure U.S. farmers of markets, while helping protect both U.S. producers and consumers from large variations in prices.

## OUTLOOK FOR HOUSING AND MORTGAGE MARKETS 1

by Marshall A. Kaplan<sup>2</sup>

Before dwelling on the housing market in detail, let me give you the underlying economic and financial assumptions behind my housing forecast. I am assuming that the current weakness in the economy will probably come to an end soon, although the economy is not likely to pick up strongly for some time ahead. The pickup in the economy by itself would not likely cause much of a rise in interest rates except that the prospects for inflation do not seem good to me.

The rise in the Consumer Price Index has been close to a 6 percent per annum figure over the last 6 months, and the behavior of wholesale prices has been even worse. This has occurred despite large declines in the prices of most meats and poultry, which inevitably are bound to level off and turn around. Skipping over the many other factors involved in making a price forecast, I merely express my belief that we may be experiencing increases in the Consumer Price Index close to 6 percent per annum in 1977.

Such an inflation outlook will tend to push up interest rates more rapidly than the outlook for economic growth, by itself, suggests. This is because interest rates contain a substantial inflationary premium and are going to be sensitive to changes in prices. As a result, I expect that the 3-month Treasury Bill rate, which is currently about 4.9 percent, could rise above 6 percent toward the end of 1977. Since short-term interest rates are the major factor in determining the flow of funds into savings and loan associations (S&L's) and general housing credit availability, this suggests a financial climate in 1977 that is not as good as what we currently have.

Nonetheless, the flow of funds into S&L's in 1976 has been exceptional, and it would be surprising if this flow could be duplicated in 1977. Savings flows could well reach a record \$51 billion in 1976, to which we have to add \$38 billion from loan repayments as a further source of funds for mortgage money. Since I don't expect any real sharp runup in interest rates during most of 1977, savings flows could still be quite substantial for S&L's even though they might be down from the 1976 record. Interest rates on new mortgage loan commitments have come down somewhat recently so that we will be going into 1977 with mortgage interest rate levels that are favorable by recent historical standards. In terms of mortgage interest rates, the early part of 1977 may well be a good period for home buyers, but as the year progresses mortgage interest rates are likely to creep up again.

Let me turn now to the internal dynamics of the housing market split into its two major categories—single-family housing and apartments. I will not touch on mobile homes, despite their importance to the housing market, because I lack the kind of data on mobile homes necessary for a careful analysis of the prospects for this segment of the housing market.

#### Single-Family Housing

My forecast for the number of single-family starts (new housing units) for 1977 is 1.2 to 1.3 million. This number represents a 50,000 to 150,000 unit increase over the 1976 estimate of 1.15 million single-family starts.

I do not believe that single-family starts in 1977 can exceed the record level of 1972 because the 1972 starts were aided by two factors that are not present in today's housing market. One was a boom mentality among builders that led them to add a large number of housing units to their unsold inventory in anticipation of future sales. There is not much speculative building of this type going on today. The other was the very large number of federally subsidized single-family units started

<sup>&</sup>lt;sup>1</sup> This article is condensed from a paper given at the National Agricultural Outlook Conference in November 1976, at Washington, D.C. The complete paper may be ordered from the Consumer and Food Economics Institute (see inside cover page of this issue of Family Economics Reivew for address).

<sup>&</sup>lt;sup>2</sup> Director, Special Studies Division, Office of Economic Research, Federal Home Loan Bank Board.

in 1972 under the Section 235 program.<sup>3</sup> In 1977 we will be getting an increasing number of units under the revised Section 235 program, but the number of units will still be much smaller than in the early 1970's and the revised program involves a shallower subsidy than the original program.

An important aspect of the single-family market that is likely to persist into 1977 is the increasing share consisting of units that are not on the market for sale. These units are being constructed to order for the owner and some are being constructed by the owner himself. An unusally large number of single-family starts are currently in nonpermit issuing areas, which are generally rural or are at least beyond current suburban areas. These units do not get into the sales statistics and may explain why single-family starts this year have improved much more than official statistics on new home sales indicate. Thus, the ratio of single-family starts to sales during the first 9 months of 1976 was 1.82 compared with a ratio of 1.64 in 1975.

A major obstacle to a single-family housing boom rather than merely a good year is that housing costs remain a serious deterrent to the ability of builders to construct homes suitable to first-time home purchasers. According to census statistics, the median price of homes sold in September 1976 was \$45,200. This represents a 14-percent increase over the same month in 1975. There has been a large regional divergence in the rise in new home prices, with the rise greatest in the West and North Central States, more modest in the Southern States, and least in the Northeastern States. The sharp rise in prices has occurred despite the attempt of builders to economize on the use of expensive land and to eliminate certain frills that used to be standard on homes.

Many factors have contributed to the recent steep rise in new home prices. Perhaps the major one has been the increase in the cost of developed land, where environmental and zoning factors have tended to hold down the supply. Over the past year, lumber and plywood prices have risen much more sharply than we would have expected based on the only modest increase in housing starts.

Let me put the escalation of housing prices in historical perspective. It is true that home prices have been outrunning family income in recent years so that the ratio of the median family income was up to 2.86 in 1975 compared with 2.39 in 1970. However, the median sales prices in the early 1970's were held down by the low prices on heavily subsidized Section 235 houses. The ratio of house prices to family income in 1975 was about the same as during the 1960's. It is only in the last year that this ratio may be above the historical norm.

In my opinion, it is not so much the price of new homes that has been a deterrent to home sales but the sharp rises in the operating cost of homes as reflected in much higher utility bills, real estate tax payments, home insurance payments, and the cost of maintaining a house. In fact, in light of these factors, it is amazing that the single-family market has been as strong as it has been in 1976. It appears that households are willing to allocate a larger percentage of their budget for housing. Undoubtedly, the single-family housing market has been stimulated because of the high rate of household formation, the continued strong attachment of the average household to home ownership, and the increasing number of households in which both spouses work.

In analyzing the single-family market, we must take into account the majority of housing starts that are desinged to permit existing home buyers to purchase a better home. These buyers already own an existing home and can afford a new and more expensive home because of the large equity that they have already accumulated in their present home.

The same situation is not true for first-time home purchasers. They are finding the going much rougher. It is likely that a higher percentage of them are buying existing homes, rather than new homes, since existing homes are generally cheaper. The gap between the median price of new and existing homes has been narrowing in recent years, however. In this connection I should note that we develop a distorted impression of what is going on in the

<sup>&</sup>lt;sup>3</sup> Section 235 of the 1968 Housing Act provides for direct homeownership subsidies to families unable to purchase a home on the private market. Under the program, eligible families pay a set percentage of their income for mortgage payments, and the Government pays a subsidy directly to the mortgage lender to make up the differences between the families' contribution and actual mortgage payment requirements.

housing market by focusing too much on housing starts. Normally far more existing homes are sold than new homes and, at the present time, the ratio of existing home sales to new home sales is even higher.

In September 1976 there was a seasonally adjusted annual rate of 3,330,000 existing homes sold. This compares with 734,000 new homes sold. Another factor to remember is that there has been a sharp increase in spending by existing homeowners for additions to their home or for major remodeling jobs. This means that there is a substantial improvement in the existing housing stock that does not get reflected if we look at housing starts. This is contributing to a more efficient utilization of the existing housing stock.

#### Multifamily Housing

The apartment market has been the weakest sector of the housing market since housing starts began to recover in the second quarter of 1975. Apartment starts remain far below the peak reached in the early 1970's. While almost 1 million apartment units were started in 1972, only 234,000 units were started last year. We have truly had a boom and bust cycle in apartment construction.

However, the rate of apartment construction in the early 1970's was fueled by considerable overbuilding, in part due to an overwillingness of lending institutions to provide funds available as a result of easy credit. You have all heard what has happened to real estate investment trusts, which did much of the construction lending for apartment projects. Other lending institutions also have suffered as a result of losses incurred on many of these new structures. The result has been to make everyone—builders and lenders alike—rather cautious

about putting up new apartments, whether rental or condominium. This caution has made lenders scrutinize new apartment projects carefully and demand clear evidence of profitability.

Construction of apartment units has been held down by a lack of profitability in many areas of the country. Thus, last September the index of rents in the Consumer Price Index was only 5.6 percent above that of a year ago. This is quite modest when we consider the large increase in both construction and maintenance costs in recent years. Over a longer period of time the rise in rents has been lagging behind consumer prices in general.

With the low level of multifamily construction over the last several years, we should be expecting a tightening in the rental market, which is beginning to occur. Thus, on a seasonally adjusted basis, 85 percent of rental multifamily units completed in the first quarter of 1976 were rented within only 3 months. This is a substantial improvement in market absorption over that of recent years. There has even been a fairly good improvement in the market absorption of condominium units coming on the market, although the absorption rate in this area of the apartment market is still well below that of several years ago. There has also been a decline in the national rental vacancy rate from a range of 6.0 to 6.3 percent during 1974 and the first three quarters of 1975 to 5.7 percent in the third quarter of 1976. I would have expected an even larger decrease in the vacancy rate, but it may be that the combined impact of recession and inflation has continued to hold down the number of those who can afford to occupy their own apartment unit and that demographic factors are becoming relatively more favorable for single-family housing.

## OUTLOOK FOR ENERGY 1

by Jerry Ann Penno<sup>2</sup>

#### Supplies and Prices

U.S. production of oil peaked in 1970 and has since been declining. Our consumption of foreign oil, on the other hand, has *risen* from 36 percent before the embargo of 1973 to 40 percent in 1976. The bill for these imports climbed from \$3 billion in 1970 to \$27 billion in 1975 and was expected to reach \$34 billion in 1976—an amount equal to \$160 for every man, woman, and child in this Nation! Increased oil prices could mean unemployment, reduced consumer spending, and slower economic growth; and these prices could add as much as 2 cents per gallon to the pump price of gasoline.

The outlook for natural gas, the energy source used by over 50 percent of the industrial sector and by over half of residences for home heating, is not much better. Production of natural gas has declined by 13 percent since 1973. Proved reserves reported for 1975 are at the lowest figure in 24 years. In many parts of the country, shortages of gas have forced gas companies to place a moratorium on new or additional gas service. This is most unfortunate at a time when the economy is recovering and housing construction is up. As a result, consumers in many places have had to turn to more expensive fuels, such as electricity.

The overall economic impact of these chronic gas shortages will depend on the weather, the capability of the curtailed users to switch to alternative fuels, and the ability of gas companies and other large consumers to avail themselves of measures to purchase emergency supplies of natural gas. Depending on the severity of these factors, there is always the threat of production slowdowns or shutdowns. In addition, if a given industry is able to continue production by switching to an alternative fuel, the

higher costs of conversion to these fuels will be passed along in higher costs of products to the consumer.

Our coal reserves account for 90 percent of U.S. energy reserves—around three times the energy contained in Middle East oil reserves. Yet, because oil and gas prices were so low in the past and because environmental legislation has made it difficult to mine and burn coal as a fuel source, coal has accounted for only a small portion of our energy use, a large percentage of which is used by utilities. Increased use of coal will require new technology to mine it, to transport it, and to burn it with minimum harm to the environment. Costs associated with increased production and pollution devices will increase the final cost of coal to utilities. These costs, of course, will result in increased electric bills.

#### Legislation and Programs to Conserve Energy

To help secure the Nation in the event of an embargo, legislation proposed during 1976 authorizes the building of a strategic petroleum reserve of at least 150 million barrels of petroleum by 1978 and up to a billion barrels by 1982. Legislation also authorizes establishment of standby measures to deal with any severe emergency that may arise. The United States is working with other nations to develop international cooperative contingency plans.

To help increase domestic supplies of oil, new legislation authorizes the full development of four Naval Petroleum Reserves in the United States. Price controls of crude oil will be gradually lifted and will be completely phased out by 1979 to aid oil producers with the costs of exploration and drilling. To aid consumers who have already been hurt by high oil prices and overall inflation, prices will rise gradually so as not to cause severe economic strain.

To increase energy conservation and reduce energy growth from 3.4 to 2.5 percent per year is one of the main goals of U.S. energy policy. Many conservation measures taken to achieve this reduction will directly affect consumers by helping them to save energy and, therefore, dollars. As industries find better ways to conserve energy used in production, their savings

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¹ This article is condensed from a paper given at the National Agricultural Outlook Conference in November 1976, at Washington, D.C. The complete paper may be ordered from the Consumer and Food Economics Institute (see inside cover page of this issue of Family Economics Review for address).

hopefully will be reflected in lower costs for products and services.

Appliance manufacturers are now required to provide energy efficiency information on the labels of major appliances. This information will help consumers make comparative judgments on initial cost versus operation costs of appliances. A program to educate consumers on the use of energy labels is now being prepared and will be ready for implementation after basic decisions on the exact content of the labels are made. The Federal Energy Administration is working with the industry to set overall goals for better appliance efficiency.

Auto manufacturers are now producing cars and lightweight trucks that achieve improved gas mileage. Mandatory fuel economy standards require an average of 18 miles per gallon by 1978 and 20 miles per gallon by 1980. These standards will result in better designed cars, more efficient engines, and savings for consumers. Auto dealers are also required to make available the "1977 Gas Mileage Guide for New Car Buyers" in their showrooms. This new guide, which is a joint effort of the Federal Energy Administration and the Environmental Protection Agency, divides automobiles into different size classes according to their interior measurements, which are considered to be more meaningful to consumers than the traditional exterior measurements. The guide also shows the gasoline mileage achieved under test conditions. All this information should help buyers of new cars to better compare the fuel economy of similar sized vehicles.

In addition, all new 1977 and later model cars and light trucks will carry a label disclosing the fuel economy, the average fuel cost of operating the vehicle, and the range of fuel economies of the cars in its class.

New programs leading to energy savings for homeowners also are being developed as a result of legislative action. The Secretary of the Department of Housing and Urban Development must develop standards for energy efficiency in new residential and commercial buildings within 3 years. States are required to adopt thermal building standards within 1 year. Construction costs as they relate to energy savings will be considered in developing all standards. The new homes should save consumers many dollars in their fuel bills.

Although the initial cost of solar-space heating and hot-water systems is expensive, these systems offer substantial economic benefits over their lifetimes to residential users. Their advantages, which become evident when considering lifetime costs, are not obvious to the potential consumer, however. Because these devices are new, the resale market has not yet had the opportunity to reflect their life-cycle value in resale prices. Doubt over future resale values sometimes influences lending institutions. Lack of experience and lack of standards also make obtaining warranties difficult. To help remedy this situation. Congress has passed new legislation that authorizes \$2.5 million for the Federal Energy Administration (FEA) in fiscal year 1977 to develop a national strategy to help commercialize solar energy. Mass production and increased markets for solar heating and cooling systems are needed to make the systems more reasonably priced and consequently more popular with consumers.

To help consumers get answers to their questions regarding solar energy, The Energy Research and Development Administration and the Department of Housing and Urban Development have contracted with the Franklin Institute to operate the National Solar Heating and Cooling Information Center. Consumers anywhere in the United States who want information can call toll free (800) 573-2929 and speak to staff at the center.

#### Aid to Consumers

Families with low and fixed incomes have suffered the most from high fuel prices. After cutting back their energy use as far as possible, they have sometimes had to choose between heating their homes and other necessities, including food. Their homes are often the least likely to be well insulated, and they cannot afford to remedy the situation.

The Weatherization Assistance Program that was recently legislated by Congress to help solve this problem will help low-income persons by insulating over a million residences of low and fixed-income people. FEA will make grants to States, which may in turn allocate the funds among local governments and community action agencies to administer the program. All low-income households will be eligible to receive weatherization assistance. Which resi-

dences to insulate will be determined by the State or local agency administering the program. Under the program, \$55 million is authorized for fiscal year 1977, \$65 million for fiscal year 1978, and \$80 million for fiscal year 1979. At least 90 percent of the funds must be spent on such weatherization materials as ceiling insulation, caulking, weather stipping, and storm windows, rather than on administrative costs.

The high cost of utility bills, of course, has been an increasing concern, if not the major energy concern, of all consumers. Besides the high cost of fuel that has been passed on to consumers in their bills, the cost of construction of new plants, as well as the daily costs of management, has increased with inflation. These costs often are reflected in a higher rate base. The utility companies also are having problems because of the higher costs. They are required by law to deliver electricity on demand but find it increasingly difficult to raise the capital necessary to construct new plants needed to generate electricity during high demand periods.

FEA has funded a number of utility rate demonstrations to find solutions to these problems that will be equitable for both consumers and utilities.<sup>3</sup> The majority of these projects are testing the pros and cons of peakload pric-

ing. Peakload pricing would provide households with an opportunity to save money on their utility bills by changing consumption patterns of electricity. Conceivably, families who do their dishes and laundry at offpeak hours—late at night or early in the morning—could save money.

Another demonstration program is testing the pros and cons of a lifeline rate. This rate would charge consumers who qualify and who use a certain minimum amount of energy a special low rate. Those who use more than the minimum would be charged at an increasing rate for that which is used above the minimum. Present rate structures usually charge less for electricity used above a certain amount. The lifeline rate could be an aid to low-income consumers who usually use less electricity and who are having an especially hard time paying their utility bills.

At the Federal level, the Federal Energy Administration has been actively working to develop consumer information and has produced three films especially for use with consumer audiences. "When the Circuit Breaks," 271/2 minutes, explains the reasons for the energy problem and some resource development and conservation measures needed to solve it. "Don't Cut Us Off," 16 minutes, shows what four American communities have done to ease the energy budget problems of low-income and elderly citizens. "Up the Power Curve," 10 minutes, gives energy conservation tips that all people can practice. These movies are available for free from Modern Talking Pictures, New Hyde Park, N.Y. 11040.

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<sup>&</sup>lt;sup>3</sup> A report on these demonstrations is available from the Federal Energy Administration, Washington, D.C. 20461.

# ENERGY EXPENDITURES AND APPLIANCE OWNERSHIP OF FARM-OPERATOR HOUSEHOLDS

by Marilyn Doss Ruffin

Energy has been a growing concern in the budget of many families. Information about farm family spending for energy for family living purposes and ownership and purchase of major energy-consuming appliances by farm families was collected by the U.S. Department of Agriculture as part of the 1973 nationwide Survey of Farm-Operator Family Living Expenditures. Special tabulation of that part of the survey is presented here, along with relevant information from the 1970 Census and the 1973-74 Surveys of Purchases and Ownership of the U.S. Department of Commerce and from the 1972-73 Survey of Consumer Expenditures of the U.S. Department of Labor.

#### Household Energy Expenditures

Farm families have heavy expenditures for household energy. Nearly all farm-operator households reported expenditures for one or more fuel and utility categories, compared with 90 percent of all U.S. households. The average expenditure for farm operator households was about a fifth higher than the expenditure for all U.S. households (table 1).<sup>2</sup> Compared with all U.S. households, a higher percentage of farm-operator households had expenditures for electricity, for bottled and tank gas, for fuel oil and kerosene, and for coal and wood. Fewer farm households reported expenditures for utility (piped) gas.

#### **Expenditures for Major Equipment**

Farm families had substantial expenditures for inventories of major appliances. Although net farm income in 1973 was double that of 1972, appliance expenditures per household averaged about the same. In 1973 the percentage of farm-operator households who reported purchases of major appliances for their own use was about 33 percent higher than that of all U.S. households (42 and 32 percent, respectively); the average expenditure per farm-operator household was about 50 percent higher than the average for all U.S. households. Conversely, average spending by survey households for laundry and drycleaning services was less for farm families (\$40 compared with \$79).

Among farm-operator households who reported purchasing major equipment in 1973 for use by the household, three-tenths spent under \$200; four-tenths spent \$200 or more, but less than \$500; and three-tenths spent \$500 or more. Except for families at the lowest income levels, average expenditure rose with income (table 2). Why average expenditure was so high for families with income under \$5,000 is not clear. It may be that these families started the survey year with a lower inventory of owned appliances and were forced to do some "catching up." Some likely were acquiring for the first time such appliances as automatic washers or vacuum cleaners or perhaps clothes dryers—appliances that, while not necessities like the stove and refrigerator, do add greatly to the convenience of housekeeping. An additional factor to consider is how well the reported after-tax income for 1973 reflected the family's usual annual income and level of living.

When families were classified by age of head, mean expenditure for families reporting an expenditure was highest when the head was under 25 and lowest when the head was 65 or over. The younger group were probably building inventory, while the older households may have passed their peak inventory level and may have been replacing only as necessary.

For more information on the survey see U.S. Department of Agriculture, Statistical Reporting Service, Farm-Operator Family Expenditures for 1973, SpSy6(9-75), September 1975.

<sup>&</sup>lt;sup>2</sup> Unless otherwise stated, expenditures for "all households" are derived from U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey Series: Interview Survey*, 1972 and 1973, Rpt. 455-2, 1976, table 1b.

<sup>&</sup>lt;sup>3</sup> Expenditures reported in this sentence exclude purchases of television sets and range hoods to make farm family data comparable with U.S. household data reported by the Bureau of Labor Statistics.

Table 1. Fuel and utility expenditures, farm-operator households and all U.S. households, 1973

All U.S. households	Percent of households reporting expenditure		77	45	15	10	20	$\binom{1}{2}$	10	06 +
A11 U.S. 1	Average expenditure for households reporting expenditure	Dollars	213	173	308	164	278	;	48	405
households	Percent of households reporting expenditure		96	6	2	49	35	11	4	3 99
Farm-operator households	Average expenditure for households reporting expenditure	Dollars	231	186	404	237	257	131	10	473
	Expenditure item		Electricity	Gas (in mains)	Combined gas and electric	Bottled or tank gas	Fuel oil and kerosene	Coal and wood	Other fuels	Total <sup>2</sup>

lncluded with "other fuels."

<sup>2</sup>In addition, 26 percent of farm-operator households produced fuel on the farm, with an average value of \$136 per household reporting.

<sup>3</sup>Based on households reporting any expenditure for utilities and public services. "Based on households reporting any expenditure for fuels and utilities. Sources: Derived from U.S. Department of Agriculture, Statistical Reporting Service, Farm-Operator Family Expenditures for 1973, SpSy6(9-75), September 1975, tables 5 and 6; and U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey Series: Interview Survey, 1972 and 1973, Report 455-2, 1976, table 1b.

## Ownership and Purchase of Major Equipment

While most U.S. households (both farm and nonfarm) had the use of several major appliances in their homes, a larger percentage of all U.S. households, rather than farm-operator households, reported having appliances they did not own. Most of these nonowned appliances were probably included in rental housing units. One-fourth of all U.S. households had

available for their use a range they did not own, one-fifth had available a nonowned refrigerator, and a few (less than 5 percent for any given appliance) had nonowned freezers, washers, dryers, or dishwashers available (table 3). By comparison, less than 1 percent of the farm-operator families reported having in the household a given appliance that was not owned. For major appliances where comparison is possible, a larger percentage of farm-operator households reported ownership than did all

Table 2. Expenditures in 1973 for purchase of major household equipment, farm-operator households 1

Population	Average expenditure	Percent reporting expenditure	Average exp. for households reporting exp.
	Dollars		Dollars
All farm-operator households	200	50	397
Income after taxes Under \$5,000	196	48	412
\$5,000 to 7,499 \$7,500 to 9,999	178 177	49 49	366 362
\$10,000 to 14,999	209	53	396
\$15,000 to 19,999	203	50	404
\$20,000 and over	250	56	443
Age of head			
Under 25	275	54	513
25-34	186	50	376
35-44	217	52	417
45-54	212	51	418
55-64	192	51	374
65 and over	168	46	364

<sup>&</sup>lt;sup>1</sup>Expenditures in 1973 for purchase of new and used major equipment for use by household. Includes cooking stove, refrigerator, freezer, dishwasher, washer, dryer, garbage disposer, range hood, electric floor care equipment, sewing machine, television, window air-conditioning unit. Includes installation charges, if any. Based on year-of-acquisition concept.

Source: Special tabulation by U.S. Department of Agriculture, Agricultural Research Service, Consumer and Food Economics Institute, of unpublished data from the 1973 Farm Family Living Expenditure Survey, USDA, Statistical Reporting Service.

Table 3. Ownership and availability of selected major appliances by all U.S. households and households outside metropolitan areas; and ownership by farm-operator households in January 1974 and purchases during 1973

Appliance	All U.S. h Appliance i unit, 1973-		metropoli Appliance	ds outside tan areas. <sup>1</sup> in housing -74 average	Farm-op house	perator holds
	Avai1able	Owned	Available	Owned	Jan. 1974	1973 <sup>2</sup>
-			- Percent of	households -		
Cooking stove	98.4	75.4 	98.6	86.6	99.1 65.4	9.3 6.1
Refrigerator	98.8	80.3	98.9  	89.6 	98.4 84.4 14.0	8.7 
Freezer	32.9	32.6	45.7 	45.2	85.5 71.3 14.2	7.4
Dishwasher  Built-in  Portable	27.1	23.1	19.8	18.9	27.1 14.8 12.4	4.4 2.0 2.5
Garbage disposer					6.3	.9
Washing machine	72.3   	69.4	77.5   	75.8   	91.8 69.3 4.7 .9 20.2	10.0 8.2 0.4 .3
Clothes dryer Electric Gas	51.9	49.4	53.1  	52.0	66.2 58.2 8.2	6.3 5.4 .9
Electric floor care equip. Vacuum cleaner Electric broom Shampooer-polisher Other	  	   	   	  	87.0 85.4 6.0 9.7 1.9	10.6 9.1 .9 .7
Sewing machine					85.9	4.9
Window air-cond. unit <sup>3</sup> Reverse cycle <sup>4</sup> Not reverse cycle	31.9	 	30.0	 	28.9 12.3 17.0	3.4 1.5 1.9
Television	96.4  59.0	  	95.8  54.2	  	96.6 64.8 52.4	6.1 10.5

<sup>&</sup>lt;sup>1</sup>Outside standard metropolitan statistical areas (SMSA's).

Source: Ownership and availability for all U.S. households and for households outside metropolitan areas is from the U.S. Department of Commerce fall 1973 and fall 1974 Surveys of Purchases and Ownership (SOPO). Reported figures are the average of the two surveys as reported in Selected Data from the 1973 and 1974 Surveys of Purchases and Ownership, Bureau of Census, U.S. Department of Commerce, July 1976. Ownership by farm-operator households was obtained through special tabulation by U.S. Department of Agriculture, Agricultural Research Service, Consumer and Food Economics Institute, of unpublished data from the 1973 Farm Family Living Expenditure Survey, USDA, Statistical Reporting Service. Percentage of households purchasing is from USDA, SRS, Farm-Operator Family Expenditures for 1973, SpSy6(9-75), September 1975, table 6.

<sup>&</sup>lt;sup>2</sup>Households counted as having purchased an item include those who purchased as gifts or rented the item as well as those who purchased for household use. Based on year-of-obligation concept.

<sup>&</sup>lt;sup>3</sup>Includes units installed in wall of structure.

<sup>&</sup>lt;sup>4</sup>A reverse-cycle unit is one which is capable of both cooling and heating.

U.S. households or households outside metropolitan areas. About four-fifths of the farm population lived outside metropolitan areas in 1974, constituting about one-tenth of the non-metropolitan population.<sup>4</sup>

The percentage of farm-operator households owning selected major equipment items is presented in table 3. Owned items include those purchased by the household for its own use, those included in the purchase of the home, and those received as gifts. Households counted as having purchased an item include those who purchased as gifts or rented the item as well as those who purchased for use by the household. Ownership and availability of major appliances by all U.S. households and by households outside metropolitan areas, as reported in the Survey of Purchases and Ownership of the U.S. Department of Commerce, are also presented in table 3.

More than four-fifths of the farm households reported owning a food freezer, compared with one-third of all U.S. households (Survey of Purchases and Ownership, 1973-74 average) and slightly less than one-half of all nonmetropolitan households. Nine-tenths of the farm households owned washing machines, compared with about three-fourths of both nonmetropolitan households and all U.S. households. Two-thirds of the farm households owned clothes dryers; this compares with about one-half of all U.S. households and one-half of all nonmetropolitan households. Dishwashers were owned by about equal proportions of farm households as all households. Comparative information was not available for garbage disposals, floor-care equipment, or sewing machines.

Data from 1970 and 1973 to 1974 indicate that water heaters, cooking stoves, and clothes dryers used in farm homes are electric models more often than those used in all U.S. households. Although information was not collected

in the Farm Family Living Survey or the Surveys of Purchases and Ownership on water heaters, information from the 1970 Census of Housing provides a comparison between farm households and all U.S. households. In 1970, while only one-fourth of all housing units in the United States had electric water heaters, more than one-half of all occupied farms used electricity for heating water. More farm households used electricity for cooking, more used bottled or tank gas, and fewer used utility gas. In the Farm Family Living Survey, two-thirds of the households owned an electric cooking stove in January 1974, and two-thirds of stove purchases in 1973 were electric. Almost ninetenths of the farm-operator households owning a clothes dryer had an electric model; similarly, almost nine-tenths of their purchases were electric.

#### Implications for Energy Information

About one-half of the farm-operator households reported purchasing a major kitchen. laundry, or floor-care appliance; a television set; or a room air-conditioner in 1973. High percentages purchased freezers and refrigerators, appliances that are major energy consumers, and for which energy consumption varies widely among models. It seems likely that each year many farm families are making decisions in selecting appliances and could make use of information on relative energy efficiencies. The 1973 survey indicates that spending by young farm families may be quite high. Young families, of course, have little experience in deciding which appliances to buy and would seem to have most need for guidance in selecting energy-efficient models.

Most farm-operator households reported owning a food freezer; some owned two or more. Freezers are high consumers of electrical energy. Management practices in their use and care and in their location in the house can make a difference in the cost of operation. This would appear to be another fruitful area for guidance.

With a substantial proportion of farm households having electric water heaters, ninetenths having washing machines, and over one-fourth having dishwashers (according to the most recent surveys), careful selection and use of these items, as well as care in other uses of hot water, could have an energy-saving impact.

<sup>4&</sup>quot;Outside metropolitan," "nonmetropolitan," and "outside SMSA (Standard Metropolitan Statistical Area)" are used interchangeably. An SMSA is a county or group of contiguous counties containing at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. Contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city. In New England States, SMSA's consist of towns and cities instead of counties. Each SMSA must include at least one central city.

#### TRANSPORTATION AND FARM-OPERATOR HOUSEHOLDS

by Connic M. Hoerman

Private transportation is a major budget item for farm-operator households. Farm households must rely on private transportation because they usually have limited access to such transportation alternatives as public transportation and carpools. In 1973, expenditures for transportation by farm-operator households accounted for almost 18 percent of total family living expenditures and ranked third behind housing and food. In 1955, however, transportation expenditures accounted for only 11 percent, and ranked fourth behind housing, food, and clothing (table 1).

An increase in the number of vehicles owned by farm-operator households and changes in household size and income may account for the jump in the percentage of expenditures for transportation. For example, according to Census figures, between 1960 and 1970 the percentage of farm households owning at least one car increased from 77 to 87, and the percentage owning two or more cars increased from 16 to 27. Higher incomes and decreased family size during this period probably made this increased vehicle ownership possible. Between 1955 and 1973 the net income per farm increased from \$2,429 to \$11,727. Family size of farm-operator households decreased from 3.8 to 3.5.

The jump in expenditures for transportation between 1955 and 1973 is especially meaningful in that it occurred during a period in which prices paid by farmers for autos and auto supplies increased less than prices paid for all items used for family living (5l and 58 percent, respectively, according to the Statistical Reporting Service of the USDA). Moreover, most of the data on expenditures in 1973 were collected too early to reflect the large increases in gasoline prices, which began at the end of 1973. The continuing increases in prices for transportation-related items may change or may already have changed the percentage of expenditures that farm-operator households need to allocate to transportation.

Data on expenditure patterns of farm-operator households are from the 1973 Farm Family Living Expenditure Survey. Basic data from

this survey were presented at the Agricultural Outlook Conference in November of 1975. This paper presents a special analysis of transportation expenditures of farm-operator households. Data from 2,621 households are included in the analysis. The dollar figures reflect the amount of the household's expense attributable to family living after any percentage from farm or business operation had been deducted.

#### Vehicle Ownership and Miles Driven

Farm-operator households are more likely to own vehicles and also tend to own more vehicles than is common for all U.S. households. (Vehicles include cars, trucks, campers, and other vehicles owned for at least half the year.) Whereas 96 percent of farm-operator households owned at least one vehicle in 1973, according to data from the Bureau of Census, only 83 percent of all U.S. households did so that year. The percentage of farm households owning three or more vehicles was 17 percent, while that of the general population was only 9 percent (table 2).

Among farm-operator households, those with low incomes were the most likely not to own a vehicle or to own just one, while households with high incomes frequently owned two or more vehicles (table 3). Off-farm income was related to the number of vehicles owned by the households in much the same way as income after taxes was related. (Off-farm income is a before-tax figure that includes income other than farm income, such as wages, salaries, and other transitory sources.) Whereas only about one-tenth of households with low off-farm income owned three or more vehicles, three-tenths of households with high off-farm income owned that many.

The number of vehicles owned per household increased as the number of full-time earners increased. Whereas 7 percent of the households having no full-time earners owned three

<sup>&</sup>lt;sup>1</sup> Published reports from this survey are available from the Crop Reporting Board, Statistical Reporting Service, USDA, Washington, D.C. 20250.

Table 1. Distribution of family living expenditures for farm-operator households, 1955 and 1973

Expenditure group	1973	1955
	Per	cent
Total	100.0	100.0
Housing	28.7	28.1
Food	21.7	25.2
Transportation	17.6	11.4
Clothing	7.0	13.0
Medical care	6.7	7.3
Other 1	18.3	15.0

<sup>&</sup>lt;sup>1</sup>Includes personal care; tobacco and alcoholic beverages; reading, subscriptions, memberships and other recreation; education; miscellaneous; personal insurance; and cash gifts and contributions.

Source: Farm-Operator Family Living Expenditures for 1973. USDA, SRS, September 1975, p. 8.

Table 2. Household ownership of vehicles, 1973

Туре	Ownership	Farm-operators 1	United States
	Number	Perc	ent
All vehicles	0	3.7	16.9
	1	47.6	40.1
	2	31.7	33.7
	3 or more	17.0	9.3
Cars	0	11.2	18.5
	1	62.0	47.6
	2	21.4	28.4
	3 or more	5.4	5.5
Trucks	0	70.9	86.5
	1 or more	29.1	13.5

<sup>&</sup>lt;sup>1</sup>Number of vehicles owned by farm-operator households excludes vehicles used entirely for farm business and those owned by the household for less than half the year.

Source: Farm data from Farm Family Living Expenditure Survey, special analysis by USDA, CFEI, Fall 1976. U.S. data from unpublished data from the 1973 Survey of Purchases and Ownership, U.S. Department of Commerce, Bureau of the Census, July 1976.

or more vehicles, the percentage of households having two earners was four times as high.

Households headed by persons aged 35 to 44 owned the most vehicles. Those headed by persons less than 35 years old almost always owned at least one vehicle, although most had not yet accumulated a fleet of three or more vehicles as had many of the older households. There was a sharp decline in vehicle ownership for the 65-and-over age group, although less than 10 percent of these households were without a vehicle.

Of the households who owned no motor vehicles during the year, 67 percent were older persons who lived alone or with one other per-

son, and 30 percent were husband and wife households with one or more children present.

Despite the fact that most of the farm-operator households in the survey probably lived some distance from a town or city, these households did not drive more miles per year than is typical in this country. The average number of total miles driven in 1973 was 16,620 for all vehicles not used exclusively for business per farm-operator household. Although no national figures are available for that year, the fall 1974 Survey of Purchases and Ownership by the Bureau of the Census reported the average number of miles driven by all vehicles per U.S. household was 16,800.

Table 3. Vehicle ownership of farm-operator households by selected household characteristics

	Nu	umber of ve	ehicles own	ned
Characteristics	0	1	2	3 or more
		Per	cent	
Money income after taxes				
Less than \$5,000	8.9 2.8 1.1 2.1	63.6 52.4 39.5 31.0	20.9 31.5 36.9 38.9	6.7 13.3 22.6 28.0
Age of head of household				
Less than 35 35 to 44 45 to 54 55 to 64 65 and over	2.3 1.8 2.6 3.4 9.5	53.7 35.5 39.1 48.8 67.8	31.8 36.4 35.3 34.1 16.8	12.2 26.3 23.0 13.6 5.8
Full-time earners				
0	8.7 3.2 2.3	65.1 50.9 30.6	19.5 31.7 38.3	6.7 14.2 28.8

Source: Farm Family Living Expenditure Survey, special analysis by CFEI, Agricultural Research Service, U.S. Department of Agriculture, Fall 1976.

The average annual number of miles driven per car in 1973 was 10,304 for the farm households and about 9,990 miles for all U.S. households. The average mileage per car for farm households was directly proportional to the household's income. The average car mileage was 8,110 miles for households with money income after taxes of less than \$5,000, compared with 11,846 miles for those with income over \$15,000.

#### Transportation Expenditures

The largest part of the farm household's transportation dollar (table 4) went for the purchase of autos (37 percent), followed by fuel to operate autos and trucks (23 percent), and vehicle insurance (10 percent).

The average household expenditure for vehicles purchased in 1973 by farm-operator households was \$956, which is greater than the national figure of \$761 per household reported

Table 4. Average expenditures per household for transportation-related items

Item	Dollars	Percent of total
11 transportation	1,638.82	100.0
Purchase of autos and other vehicles	755.94	46.1
Autos	600.13	36.6
Trucks	88.35	5.4
Motorcycles and scooters	20.83	1.3
Campers	20.36	1.2
Other	26.27	1.6
Renting and leasing of vehicles	2.69	0.2
Vehicle operating expenses	656.18	40.0
Fuel to operate autos and trucks	378.48	23.1
Lubrications, autos and trucks Fuel and lubrications; other	33.19	2.0
vehicles	7.23	0.4
Tags and fees	39.76	2.4
Vehicle insurance	168.08	10.3
Finance charges	24.41	1.5
Other	5.03	0.3
Vehicle maintenance; repair expenses	193.15	11.8
Tires and tubes	83.15	5.1
Batteries	9.55	0.6
Air conditioning and accessories	4.66	0.3
Service and repair work	77.45	4.7
Other	18.34	1.1
Transportation used on trips	22.83	1.4
Public transportation cost	4.31	0.3
Transportation to and from school for someone attending school away		
from home	3.72	0.2

Source: Farm-Operator Family Living Expenditures for 1973. USDA, Statistical Reporting Service, September 1975, pp. 34-36.

by the Census Bureau for that year. Since the survey year was not a typical one for farmers because the net farm income was double the amount from the previous year, this may well have affected their spending patterns.

The percentage of cars purchased new in 1973 by farm-operator households was 33 percent, compared with 41 percent for all U.S. households.<sup>2</sup> The average price paid by farm households for a new car in 1973 was \$3,590, whereas it was less (\$3,490) for the entire United States. For used cars the average prices were \$1,418 for the farm households and

\$1,287 for the general population. All these prices reflect the net cost after an allowance had been made for any trade-in.

#### Purposes of Trips

The biggest difference between the purposes of trips made by farmers and farm managers and those of all U.S. drivers was in the category of earning a living (table 5). Although the percentage of all trips related to earning a living was almost the same for both groups, the breakdown between home-to-work trips and related business trips was very different. The lower percentage of trips farmers made to work and back was balanced by the greater percentage of trips related to their business.

Table 5. Automobile trips by purpose of trip

Purpose of trip.	Farmers and farm managers	All U.S. drivers
	Perc	ent
Earning a living	36.1 24.0 12.1 34.8	36.2 31.9 4.3
Shopping  Medical and dental  Other	13.8 3.7 17.3	15.2 1.8 14.0
Civic, educational, and religious.	7.2	9.3
Social and recreational	20.8 8.0 1.3 (1) 11.5	22.4 8.9 1.4 0.1 12.0
Other	1.1	1.1

<sup>&</sup>lt;sup>1</sup>Data insufficient for analysis.

Source: Purposes of Automobile Trips and Travel. U.S. Department of Transportation, Federal Highway Administration. *Nationwide Personal Transportation Study*, Report No. 10, p. 69, May 1974.

<sup>&</sup>lt;sup>2</sup> Data on all U.S. households are from motor vehicle manufacturers or from U.S. Bureau of the Census.

The lower percentages of trips made by farmers and farm managers for shopping; civic, educational, and religious activities: and visiting friends and relatives, may be due to the fact that these trips require more miles of travel for farmers and farm operators than they do for other drivers (tables 5 and 6). Farmers and farm managers have to travel twice the distance of all drivers to conduct such family business as shopping and visiting the doctor. Trips that

involve earning a living are approximately 3 miles less for farmers. Overall, farmers and farm managers average 2 miles more per trip than do all drivers.

Since trips made by farmers are generally longer in mileage and since farm households travel about the same number of miles per year as all households, then it follows that farm households are likely to make fewer trips than are common for all households.

Table 6. Average length of trip by major purpose of trip

Purpose of trip	Farmers and farm managers	All U.S. drivers
	Mil	les
Earning a living	7.3 11.2 5.7 17.0	10.2 5.6 4.7 13.1
Total	10.9	8.9

Source: Purposes of Automobile Trips and Travel. U.S. Department of Transportation, Federal Highway Administration. *Nationwide Personal Transportation Study*, Report No. 10, p. 71, May 1974.

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#### SOME NEW USDA PUBLICATIONS

(Please give your ZIP code in your return address when you order these.)

The following are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402:

- RX FOR WOUNDED TREES. AIB 387. February 1976. \$1.35.
- HANDBOOK OF AGRICULTURAL CHARTS. AH 504. October 1976. \$2.35.
- A PLANNING GUIDE FOR FOOD SERVICE IN CHILD CARE CENTERS. FNS 64. Revised April 1976. 55 cents.
- ADVISING PEOPLE ABOUT COOPERATIVES. PA 1147. May 1976. 45 cents.

Single copies of the following are available free from the U.S. Department of Agriculture. Please address your request to the office indicated.

From Food and Nutrition Service, Food Stamp Division, Washington, D.C. 20250:

• CHARACTERISTICS OF FOOD STAMP HOUSEHOLDS SEPTEMBER 1975. FNS 160. May 1976.

From Economic Research Service, Division of Information, Washington, D.C. 20250:

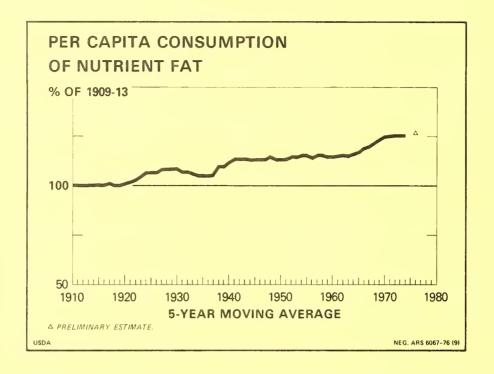
• FARM POPULATION ESTIMATES FOR 1975, AER 352, October 1976.

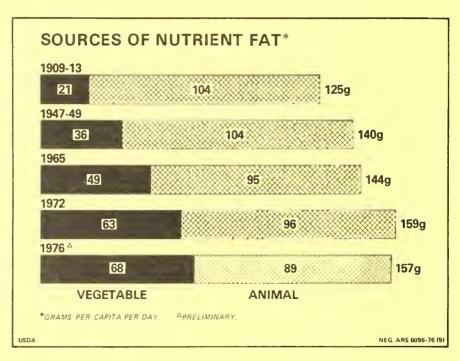
From Agricultural Research Service, Information Division, Room 343A, Federal Building, Hyattsville, Md. 20782:

- SWEETENERS. CA-NE-13. May 1976.
- HOME CANNING OF FRUITS AND VEGETABLES. G 8. Revised April 1976.
- REMOVING STAINS FROM FABRICS. G 62. Revised August 1976.
- STORING PERISHABLE FOODS IN THE HOME. G 78. Revised April 1976.
- BAKING FOR PEOPLE WITH FOOD ALLERGIES. G 147. Revised May 1975.
- YOUR MONEY'S WORTH IN FOODS. G 183. Revised September 1976.
- FOOD FOR THE FAMILY—A COST-SAVING PLAN. G 109. May 1976.
- AUNT SAMMY'S RADIO RECIPES. G 215. August 1976.

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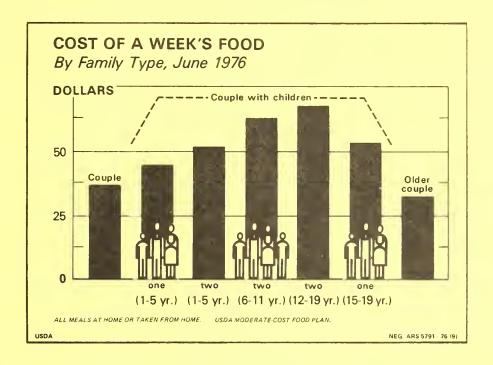
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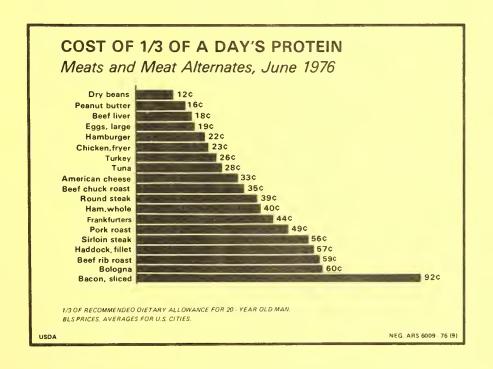




<sup>&</sup>lt;sup>1</sup> Black and white photographic prints or colored slides of charts may be ordered from Photography Division, Office of Communication, U.S. Department of Agriculture, Washington, D.C. 20250. Slides are

<sup>30</sup> cents each and prints are \$2.70 (8" X 10" or less). When ordering, please give negative number, title of chart, and, if a print, the size desired.





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### COST OF FOOD AT HOME

December 1976, U.S. average 1 Cost of food at home estimated for food plans at four cost levels

		Cost for 1 week	1 week			Cost f	Cost for 1 month	
Sex-age groups	Thrifty plan <sup>2</sup>	Low-cost plan	Moderate- cost plan	Liberal plan	Thrifty plan <sup>2</sup>	Low-cost plan	Moderate- cost plan	Liberal
FAMILIES		Dollars	ars		100	Dollars		
Family of 2: 3 20-54 years 55 years and over Family of 4: Couple, 20-54 years and	22.20 20.00	29.10 26.00	36.60 32.10	44.00	96.50	126.40 112.50	158.70 139.50	190.70 167.00
children 1-2 and 3-5 years 6-8 and 9-11 years	31.60 38.00	41.00	51.30	61.50 74.60	136.90 164.80	177.70	221.90 269.30	266.50 323.50
INDIVIDUALS 14								
Child:	7 60	7.0	00 9	0 20	10 80	24 50	00 02	75 50
1-2 years	5.20	6.60	8.20	9.20	22.30	28.70	35.30	42.10
3-5 years	6.20	7.90	9.80	11.80	26.90	34.10	42.30	51.00
6-8 years	7.90	10.20	12.80	15.40	34.20	44.20	55.50	66.70
9-11 years	06.6	12.70	16.00	19.20	42.90	55.20	69.50	83.40
Male: 12-14 years	10.60	13.60	17.00	20.40	45.90	58.80	73.70	88.50
15-19 years	11.60	15.00	18.80	22.60	50.30	64.80	81.30	98.00
20-54 years	11.10	14.60	18.50	22.30	48.20	63,30	80.00	09.96
55 years and over	06.6	12.90	16.00	19.30	42.80	55.80	69.40	83.60
Female:	000	12 20	15 10	18 00	71 00	52 70	02 39	78 10
20-54 vears	0.30	11 90	17.10	17 70	30 50	51.60	64.30	76.80
55 years and over	8.30	10.70	13.20	15.70	35.90	46.50	57.40	68.20
Pregnant	11.50	14.80	18.20	21.70	49.70	63.90	78.80	93.80
Nursing	12.20	15.60	19.50	23.20	52.70	67.70	84.30	100.50

plan were computed from quantities of foods published in the Winter 1976 (thrifty plan) and Winter 1975 (low-cost, moderate-cost, and liberal plans) issues of Family Economics Review. The costs of the food plans were first estimated using prices paid in 1965-66 by households from USDA's Household Food Consumption Survey with food costs at These prices are updated by use of "Estimated Retail Food Prices by Cities" released monthly <sup>1</sup>Assumes that food for all meals and snacks is purchased at the store and prepared at home. by the Bureau of Labor Statistics. 4 selected levels.

 $^2\mathrm{Coupon}$  allotment in the Food Stamp Program based on this food plan.  $^310$  percent added for family size adjustment. See footnote 4.

following adjustments are suggested: 1-person--add 20 percent; 2-person--add 10 percent; 3-person--add 5 percent; For individuals in other size families, the 5-or-6-person--substract 5 percent; 7-or-more-person--subtract 10 percent. <sup>4</sup>The costs given are for individuals in 4-person families.

#### **CONSUMER PRICES**

Consumer price index for urban wage earners and clerical workers

(1967 = 100)

Group	Dec. 1976	Nov. 1976	Oct. 1976	Dec. 1975
A11 items	174.3	173.8	173.3	166.3
Food	181.7	181.1	181.6	180.7
Food at home	179.3	178.9	179.6	180.9
Food away from home	190.9	190.0	189.3	180.0
Housing	181.6	180.7	180.1	172.2
Shelter	182.4	182.1	182.0	175.0
Rent	148.3	147.5	146.9	140.6
Homeownership	195.0	194.8	194.8	187.8
Fuel and utilities	192.0	188.2	186.5	176.1
Fuel oil and coal	264.5	258.0	253.1	248.7
Gas and electricity	200.9	195.5	193.9	179.0
Household furnishings				
and operation	172.3	171.7	170.9	162.0
Apparel and upkeep	151.8	151.9	150.9	145.2
Men's and boys'	150.7	150.8	150.1	144.2
Women's and gir1s'	146.9	147.3	146.1	142.1
Footwear	153.4	153.7	152.8	145.7
Transportation	171.4	171.4	170.9	157.6
Private	170.7	170.6	170.2	156.2
Public	178.0	177.6	177.4	170.1
Health and recreation	168.0	167.3	166.1	157.5
Medical care	192.3	191.3	188.9	174.7
Personal care	165.2	164.8	163.9	154.6
Reading and recreation .	154.4	154.1	153.5	147.5
Other goods and services	155.9	155.3	154.4	149.8

Source: U.S. Department of Labor, Bureau of Labor Statistics.

#### Index of prices paid by farmers for family living items

(1967 = 100)

Item	Dec. 1976	Nov. 1976	Oct. 1976	Dec. 1975	Nov. 1975	Oct. 1975
A11 items	181	180	179	171	171	170
Food	183			184		
Clothing		197			180	
Housing	183	182	182	170	170	171
Medical and health Education, recreation,	191	189	188	173	174	172
and other	156	155	155	149	148	148

Source: U.S. Department of Agriculture, Statistical Reporting Service.

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